

# **SAFETY ELEMENT REDDING GENERAL PLAN**



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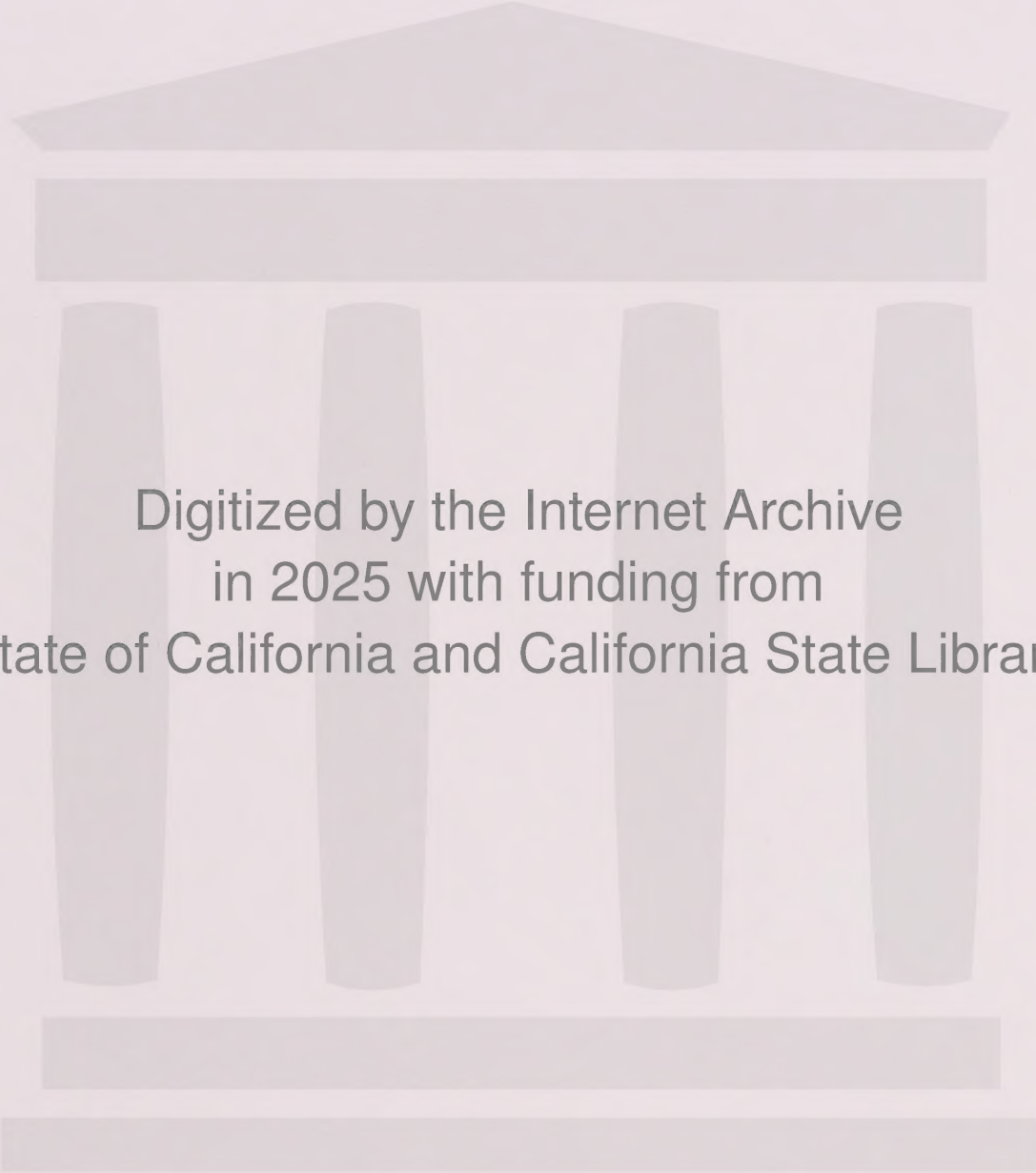
UNIVERSITY OF CALIFORNIA

## **VOLUME III**

**ADOPTED BY REDDING PLANNING  
COMMISSION, OCTOBER 12, 1976  
ADOPTED BY REDDING CITY  
COUNCIL, JANUARY 3, 1977  
AMENDED - 1984**

PREPARED BY

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT



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OCT 5 1984

DEPARTMENT OF PLANNING  
AND COMMUNITY DEVELOPMENT

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDDING  
AMENDING THE GENERAL PLAN OF THE CITY OF REDDING BY ADOPTING  
A NEW SAFETY ELEMENT.

WHEREAS, following the required public hearings therefor,  
the Planning Commission of the City of Redding has recommended to  
the City Council that the Safety Element of the City's General  
Plan be amended by adopting a new Safety Element; and

WHEREAS, following the required notices in accordance with  
law, the City Council has held public hearings on said recommen-  
dations and has carefully considered the evidence at said hear-  
ings;

NOW, THEREFORE, BE IT RESOLVED as follows:

1. The City Council has reviewed and approved the Negative  
Declaration on the plan, finding that there was no significant  
impact on the environment.

2. The City Council does hereby delete the existing Safety  
Element of the General Plan of the City of Redding and adopt the  
new Safety Element as shown in Exhibit "A" attached hereto.

I HEREBY CERTIFY that the foregoing resolution was intro-  
duced and read at a regular meeting of the City Council of the  
City of Redding on the 1st day of October , 1984, and

was duly adopted at said meeting by the following vote:

AYES:	COUNCIL MEMBERS:	Fulton, Gard, Pugh, & Kirkpatrick
NOES:	COUNCIL MEMBERS:	None
ABSENT:	COUNCIL MEMBERS:	Demsher
ABSTAIN:	COUNCIL MEMBERS:	None.

/s/ Howard D. Kirkpatrick  
HOWARD D. KIRKPATRICK, Mayor  
City of Redding

ATTEST:

/s/ Ethel A. Nichols  
ETHEL A. NICHOLS, City Clerk

FORM APPROVED:

/s/ Randall A. Hays  
RANDALL A. HAYS, City Attorney

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## I. INTRODUCTION AND POLICY

### A. PURPOSE

In recognition of the possibility of loss of life or damage to property through either natural or man-made causes, the State of California Legislature has mandated that each city and county adopt a Safety Element to its General Plan for:

"the protection of the community from fires and geologic hazards, including features necessary for such protection such as evacuation routes, peak load water supply requirements, minimum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazard."

### B. AUTHORITY

The Safety Element was prepared pursuant to Section 65302(i) of the Government Code and the "General Plan Safety Element Guidelines," prepared by the State Office of Planning and Research.

### C. SCOPE

The concept behind the mandating of the Safety Element is similar to that which led the State to mandate Seismic, Noise and Conservation elements, which is to make the policies and standards of the elements a consideration of the local planning process. Unlike the other elements where the focus is limited to one area, the Safety Element is directed to all possible hazards of the planning area, including seismic activity, flooding, noise, fire, air pollution, water pollution, snow and wind.

The scope of the Safety Element includes the identification of the area's hazards; to advocate preventive and remedial measures; and to formulate emergency plans so that in the event of disaster, the City can respond and control the disaster as efficiently and rapidly as possible. The reasons for adoption of the element are like those which have led municipal governments to adopt building codes, zoning ordinances, fire-prevention codes and subdivision regulations; namely, to reduce loss of life, injuries, damage to property and the economic and social dislocations resulting from dangerous and catastrophic events.

By establishing official City policy with respect to safety, the City of Redding will set forth such requirements and programs as deemed necessary to reduce to an acceptable level the element of risk to the community and its citizens. Many of the considerations involved herein have already been incorporated into the City's development program; thus, in some instances, the functions of the Safety Element are to summarize those concerns into one account.

For safety planning to be effective, there must be cooperation among the different departments of City government, cooperation among different governmental agencies and support and assistance from the citizens of the community. Safety planning should be thought of as both a short- and long-term investment for the community. It is short term in that protection is

provided immediately. It is long term in that providing comparable protection at a later date is normally more expensive than providing the same protection initially. In the long run, proper and adequate safety planning will consistently pay for its costs by the lives and property that will be saved.

## II. SAFETY HAZARD ISSUES

Safety hazards can occur as either a result of the actions of nature or works of man. Nature produces hazards, such as seismic activity, volcanic activity, high winds, heavy rainstorms, lightning, flooding and extreme fire danger. Man sets fires, builds unsafe structures, builds in dangerous locations and pollutes his environment. Attached to each of these occurrences is an element of risk.

For most of us, the evaluation of risk is a part of our day-to-day lives. We constantly evaluate the possibility of injury to ourselves before we cross a street, while driving a car, and before many other actions. The actual form of danger that we can expect to encounter varies both by type and intensity depending upon location and activity. Within developed areas, the degree of risk is more acute than in sparsely settled areas because of the concentration of structures and humanity. This urbanization leads to more people and structures exposed to danger in a smaller area and to an increase in the activity pattern of the area with a resultant increase in the accident potential.

In discussing safety hazards, this document will be limited to those hazards which have the possibility of damage to extensive sections of the planning area. The Element will not address those actions of individuals which can lead to personal injury or minor loss of property, such as traffic accidents, accidents in the home or criminal actions.

### A. SEISMIC HAZARDS

Seismic and geologic hazards of the planning area are discussed in the Seismic Safety Element of the Redding General Plan. The only seismic activity expected to have a major impact upon the planning area is ground shaking from faults located outside the planning area.

### B. FLOOD HAZARD

Federal Emergency Management Agency (FEMA) is presently preparing special flood-hazard area maps illustrating the 100-year flood plains of the Sacramento River and several of its tributary streams. Upon completion of the final maps, the City will begin a program to establish flood-plain zoning along the River. Likewise, the U. S. Army Corps of Engineers has compiled a flood-plain information report to establish various flood-flow elevations of the Sacramento River. The Army Corps of Engineers and the U.S. Bureau of Reclamation have adopted a 100-year flood flow through Redding as being 80,000 c.f.s.

The preliminary 100-year, flood-plain limits of FEMA are graphically illustrated on Map Exhibit X-I, of the "Existing Conditions and Issues Report of the Redding General Plan (August 1980)." Also many of the flood-plain issues of the plan area are discussed in the draft technical appendix of the Conservation and Open Space Element of the 1983 General Plan, Volume VII. This Element also sets forth recommended goals, objectives and standards pertaining to development within flood plains of creeks and the Sacramento River.

### C. FIRE HAZARD

Currently, fire constitutes the greatest danger to the planning area. Primary areas of hazard are vacant lots and fields of the planning area, buildings with inadequate electrical or heating systems, buildings with inadequate fire separation, structures used for storage of flammable or explosive materials and undeveloped canyons. Fires within the planning area are mainly the result of faulty construction or carelessness. Fires caused by lightning are not a significant factor. It should be remembered that since 1942, over 30 square miles of grasslands have burned within a seven mile radius of downtown Redding.

The City presently owns 1,400 acres of unimproved open space, most of which is situated adjacent to the Municipal Airport. The open-space lands consist of easements and fee dedications of steep slope and flood-plain areas. It is the City's open-space policy to preserve these areas and to maintain public access by way of an urban trail system. One of the guiding criteria of accepting open-space dedications is that it must tie to adjoining dedicated open space, such as a park, urban trail, or archaeological site. If it does not, then it is either not accepted or it is placed in an open-space easement.

As a property owner, the City should be responsible for providing fuel breaks adjacent to structures. That is to say the City should eliminate the accumulation of hazardous combustible fuels within 30 feet of all structures. The Uniform Fire Code defines hazardous combustible fuels as excluding grass less than 18 inches high or vegetation needed to inhibit erosion.

Related to this issue is the City's Zoning Code, which permits a minimum rear-yard setback of 15 feet for residential structures, and in case of combustible accessory buildings, no setback. If the City owns the abutting property to the rear yard, and the structure is located 15 feet from the line, then the City would only have to maintain a 15-foot clearance of hazardous fuels. However, if an accessory structure is along the rear property line in addition to a wood fence, then the City should maintain a 30-foot firebreak.

One of the concerns of the Public Works Director is the potential of an increase in the incidence of weed-abatement complaints, which the department is not equipped to handle due to the lack of man power and proper equipment. The Fire Department abatement program has been limited to brush and weed burning. In the past year, the Department has initiated a manual program to remove weeds. Its success is being monitored.

### D. NOISE POLLUTION

Community noise issues are discussed in the technical appendix for the "Noise Element of the Redding General Plan (1980-2000)." The Element describes some of the major noise problems of the community including schools, hospital and residential areas near major arterials of streets and highways including Interstate 5.

## E. AIR POLLUTION

Air pollution has emerged as a widespread public health problem in recent years by its affecting of extensive areas of the State. Today, almost all areas of the Sacramento Valley experience some form of air pollution. Its effects have been noted on plants, human health, visibility and community growth.

There are several causes which have been conducive to an increase in air pollution, including climate, topography, increasing urbanization, increasing vehicle registrations, agricultural burning and industrialization. On many occasions during the year, the Sacramento Valley acts as a holding tank when inversions accompanied by periods of low wind trap air in the valley.

The potential for high air-pollution levels in the Redding basin is very real given the susceptibility of the basin to air inversions and its topography which can act as a holding tank. At the present time, the area is not listed as a critical air basin. Many of the air pollutants entering the planning area are generated outside its boundaries from agricultural burning, industry and automobile emissions.

A detailed discussion of community air-quality issues is presented in the technical appendix of the Conservation and "Open Space Element of the Redding General Plan (1980-2000)" and the "Existing Conditions and Issues Report."

## F. WATER POLLUTION

Water pollution occurs as a result of residential wastes, industrial wastes, agricultural pesticides and fertilizers, soil leaching and mineral pollution from outlying mining operations. For the most part, water quality in the area is suitable for domestic uses; however, increasing use of septic tanks and leach fields in the long run will lead to a deterioration of local ground-water supply. Issues relating to each of these considerations is discussed in the "Existing Conditions and Issues Report of the Redding General Plan (August 1980)."

## G. AIRPORTS

The Redding Municipal Airport is the largest airport north of Sacramento. The adopted 1982 "Redding Municipal Airport Area Plan," reflects policies of protection and expansion of the Airport. Issues pertaining to Airport Safety are included in the report and in the "Existing Conditions and Issues Report of the Redding General Plan."

Similar planning consideration should be given to Benton Airpark, which is the second most active airport in the plan area. The "Existing Conditions and Issue Report" lists several nearby hazardous buildings and obstacles to be avoided by aircraft including Mercy Hospital, Manzanita Elementary School, Shasta High School, Nova High School and three water tanks.

## H. PEDESTRIAN AND BICYCLING

Between 1980 and 1984 the incorporated area of the City increased from 30.5 square miles to 46 square miles. Annexation has resulted in the City having to coordinate school pedestrian and bicycle safety with several school districts. The City and school districts have no general organized program of choosing the preferred safe pedestrian and bicycling routes for school children. In addition, some districts have asked for transit subsidy and ride-sharing program implementation for student commute needs. Specifically, the following problems are outlined:

1. Much of the annexed County-developed street system lacks sidewalk facilities or paved shoulders. These deficiencies are resulting in children walking or bicycle riding along narrow roads.
2. School crossing locations are varied including midblock and uncontrolled intersection locations. Walking children typically face a variety of complex traffic situations, the scope of which can vary considerably between alternate routes. Crossing locations may be uncontrolled, controlled by stop sign or controlled by signals. The locations with the traffic controls may or may not be the safest places for children to cross.
3. The shortest and most direct routes between the home and school may not be the best route for children to use. If a much safer route with fewer crossings and lower vehicle volumes can be found, then it should be used. Many children, parents and teachers are unaware of the possibility of alternate routes with less traffic exposure.
4. Today, the bicycle trend has resulted in school commute trips by bicycle. Improper safe bicycle riding habits are contributing to accidents. Many streets are heavily traveled by motor vehicle and bicycle use of these streets causes conflict. Often a less auto traveled but safer route exists with less auto/bicycle exposure.
5. The Redding area has school districts without outlying school bus transportation. Also, bad weather required parents to drive children more often. The need to have supplemental ride-sharing programs has become apparent.

### III. SAFETY GOALS

Safety is an important consideration of the community-development process, whether it be fire protection, construction, water supply, civil disorder, accident or war. In order to reduce the potential impact of disaster to the lowest practical level, the City of Redding adopts the following safety management goals:

1. Minimize the impact of hazards upon people and property by incorporation of safety considerations into the community development process.
2. Minimize the expansion of disasters by insuring adequate community preparedness and rapid and efficient response.
3. Provide a reasonably safe habitat in which people may live, work or play.
4. Minimize loss of life and damage to property in the event of disaster.
5. Make existing structures as safe as possible through reasonable precautions.
6. Achieve the lowest possible community fire rating as fiscally possible for the City and its citizens.
7. Coordinate and augment area emergency response and mutual assistance agreements with neighboring districts, Shasta County and the State of California.
8. Support reasonable County, State and Federal efforts, plans and programs for disaster prevention and response.
9. Support the goals of the "Conservation and Open Space Element (1980-2000)" pertaining to air and water quality, and flood-plain protection.
10. The goals and policies of the "Redding Municipal Airport Area Plan" pertaining to airport safety should be supported. An Airport Safety Plan should be developed for Benton Airport.
11. Promote safe walking and bicycling practices, and reduce the accident exposure for children walking or bicycling to school through education, requirements, or improvements.
12. Define the hazards associated with the potential collapse of Spring Creek Dam, and adopt an emergency plan for evacuation if necessary.

#### IV. SAFETY OBJECTIVES, POLICIES, AND STANDARDS

Safety hazards can most easily be controlled by taking measures to minimize the damage caused to a structure and the degree of risk to its occupants. For instance, the level of risk involved from seismic activity or flooding can be mitigated through prohibiting development in areas of hazard or by requiring additional development standards for earthquakes or floods. In areas of man-made hazard, measures such as fire walls, building setbacks, building sprinkling, or storage controls can be required for plan or subdivision approval.

It should be emphasized that safety relates to all aspects of the community development process, and safety planning must be a continuous program of evolution and improvement. Failure to incorporate safety considerations into the planning process will only cause an increase in suffering and the cost of rebuilding at a later date.

In order to meet the goals of the Safety Element, the City of Redding should incorporate the following objectives, policies, and standards into its planning process:

##### A. SEISMIC PROTECTION

Meet the objectives and standards of the Seismic Safety Element of the Redding General Plan.

##### B. FLOOD PROTECTION

Adopt the standards of the "Flood Plain Management" program of the draft "Open Space and Conservation Element of the Redding General Plan (1980-2000)" and develop a flood-plain zoning ordinance.

##### C. FIRE PROTECTION (Open Space, Fire Hydrants and Development Standards)

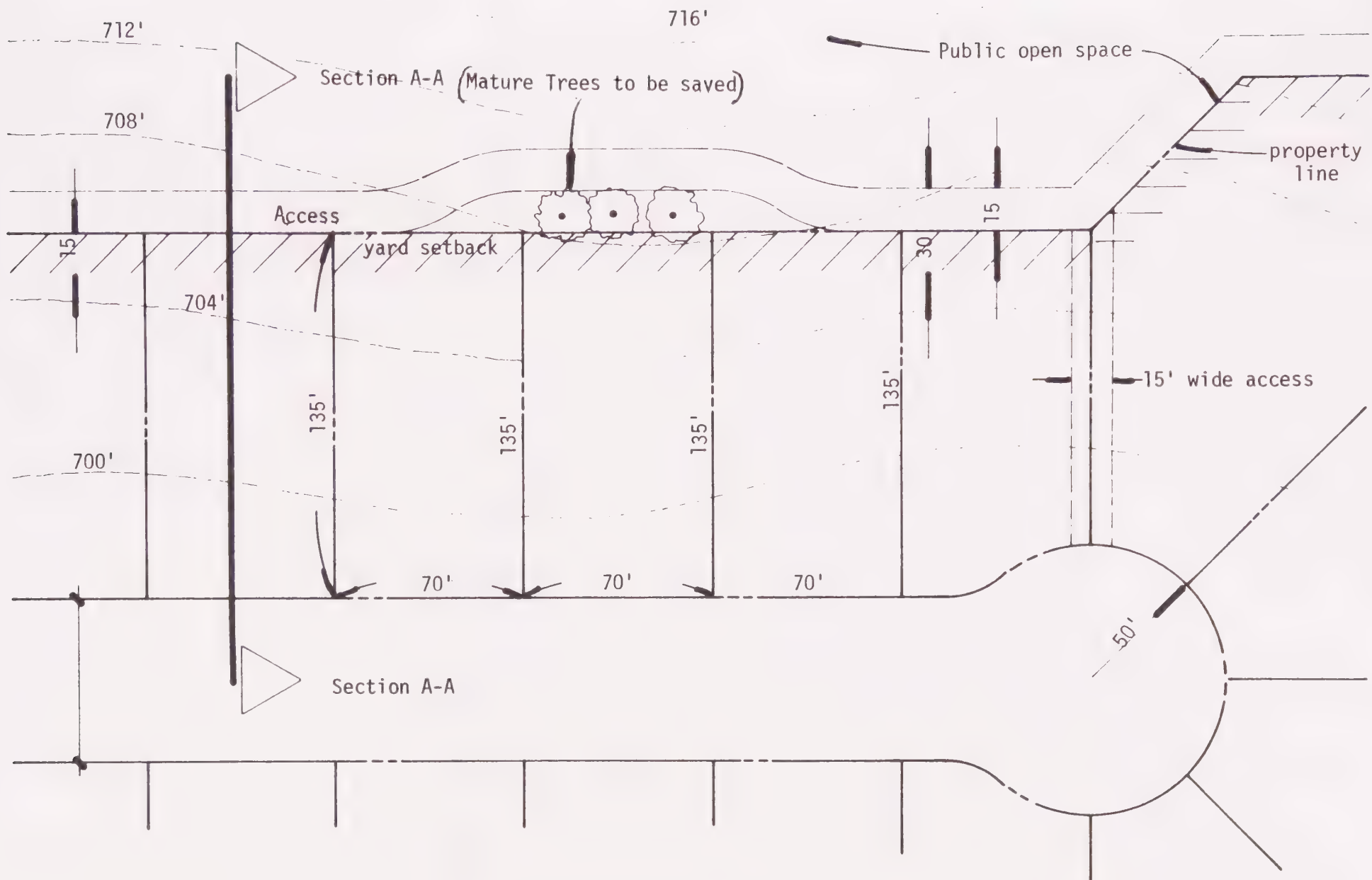
It should be noted that the standards 2 and 5 below will affect the way in which subdivisions have historically been designed when adjacent to public open space. Figures 1, 2, and 3 on the following pages point out how subdivision design can include the provisions for a 30-foot firebreak and emergency access along the rear-yard setback of subdivisions. The illustrations also show how rear lot lines can be placed to provide for a maximum cross slope of 10 percent grade to accommodate a Fire Department pumper truck.

It should be noted that in applying the Safety standards, there may be equal or better ways in which to meet the intent of the standards and both the opportunity and flexibility should be afforded to the developer to demonstrate this.

1. An index map of City-owned land should be prepared by the Planning Department and made available to each department so that the ownership of open-space land can be quickly determined in the course of dealing with open-space complaints and fire emergencies.

2. When feasible, development projects involving the dedication of open-space land should be conditioned to require the one-time clearing, bushing, and shaping of a 15-foot-wide firebreak along the property lines of lots adjacent to steep public open-space areas to allow for the passage of weed-abatement equipment and emergency-fire-department equipment. The work should occur at the same time as the subdivision is being graded. Clearing and shaping standards for the access should be as follows:
  - a. The clearing work should be limited to the removal of rocks exceeding three inches in size, tree stumps, brushing, and other vegetative debris which would block the passage of weed-abatement and emergency vehicles within the public open-space area.
  - b. For lots with a depth greater than 200 feet, the maximum cross-slope grade for the firebreak should be 10 percent to accommodate the Fire Department pumper truck. The minimum turning radi from the street to the firebreak should be 50 feet.
  - c. For lots with a depth less than 200 feet, the maximum cross slope should be a maximum of 15 percent to accommodate weed-abatement machines.
  - d. The 15-foot-wide easement paralleling the side property lines and extending to the street should be fenced and clearly marked with a sign indicating "emergency access only." This area should be graveled. Removable and decorative barricades should be installed at the entrance to the easement to prohibit unauthorized vehicles and motorcycles.
  - e. Cleared areas should be hydromulched to discourage erosion, and existing trees with a six-inch-trunk diameter should be preserved by warping the firebreak around them. The firebreak should be contoured to meet the above standards but should not be graded to cause scaring or the need for drainage-control devices.
3. For existing subdivisions adjacent to City-owned open space, where feasible, the City should make an effort to grade firebreak trails only on a complaint bases. For those areas without physical access, the complainant should be advised in writing that the City cannot safely remove combustible fuels. The City could then authorize the complainant to provide the firebreak within prescribed limits.
4. For complaints concerning the abatement of grass on the City property, the City could legitimately limit itself to abatement of weeds exceeding 18 inches in height and within 15 feet of the property line unless the Fire Marshal determines otherwise. This is in accordance with the Uniform Fire Code, 1979 Edition, Appendix E, Section 16(a)2.
5. All new development projects abutting downhill public open-space areas with slopes exceeding 10 percent should require that rear-yard fences be of noncombustible materials (i.e. chain link or masonry) and that rear-yard setbacks for all structures, other than rear-yard noncombustible fences and standard side fences, be a minimum of 15 feet.

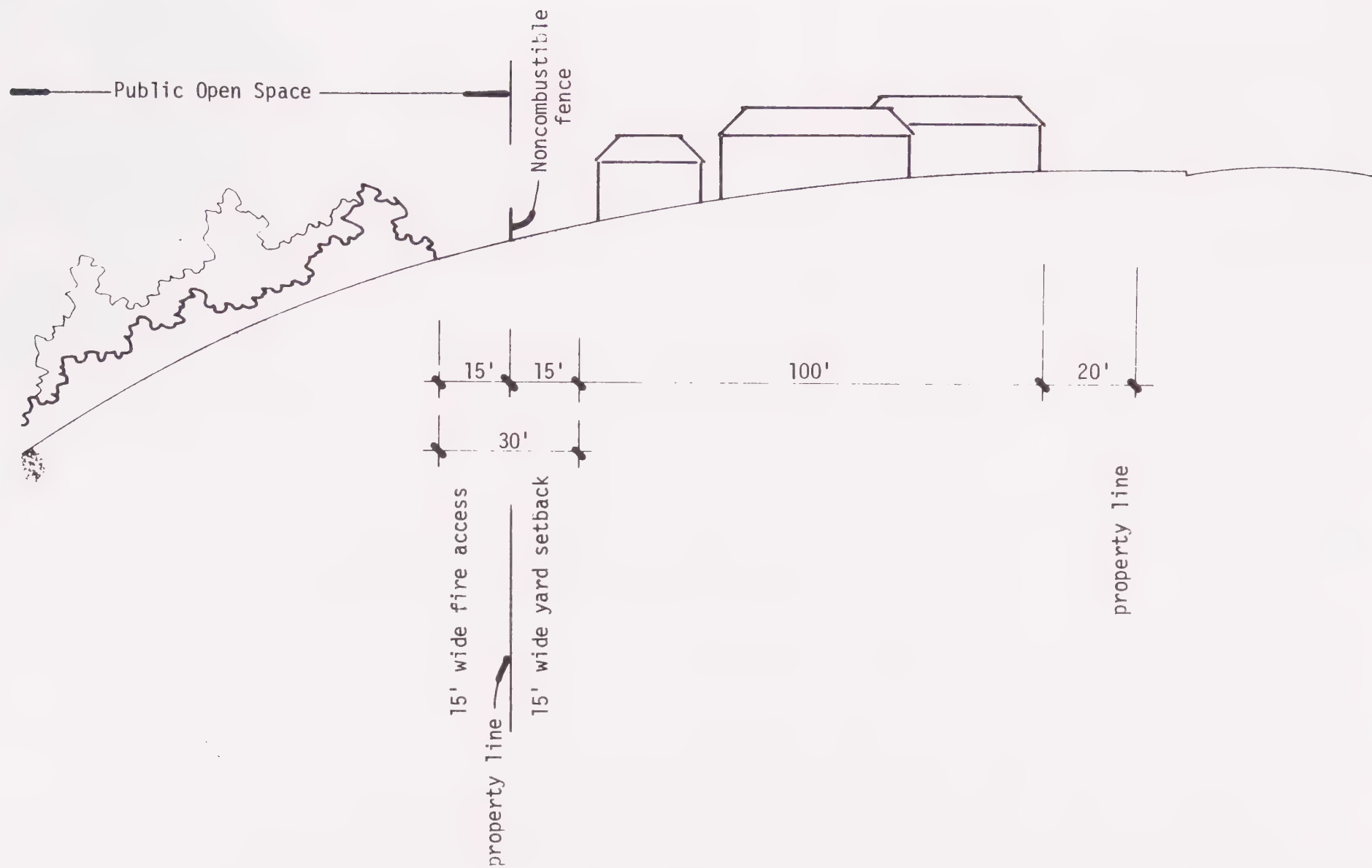




SCALE: 1" = 50'

Figure 1  
Typical fire break and weed abatement access for subdivision. Bordering steep public open

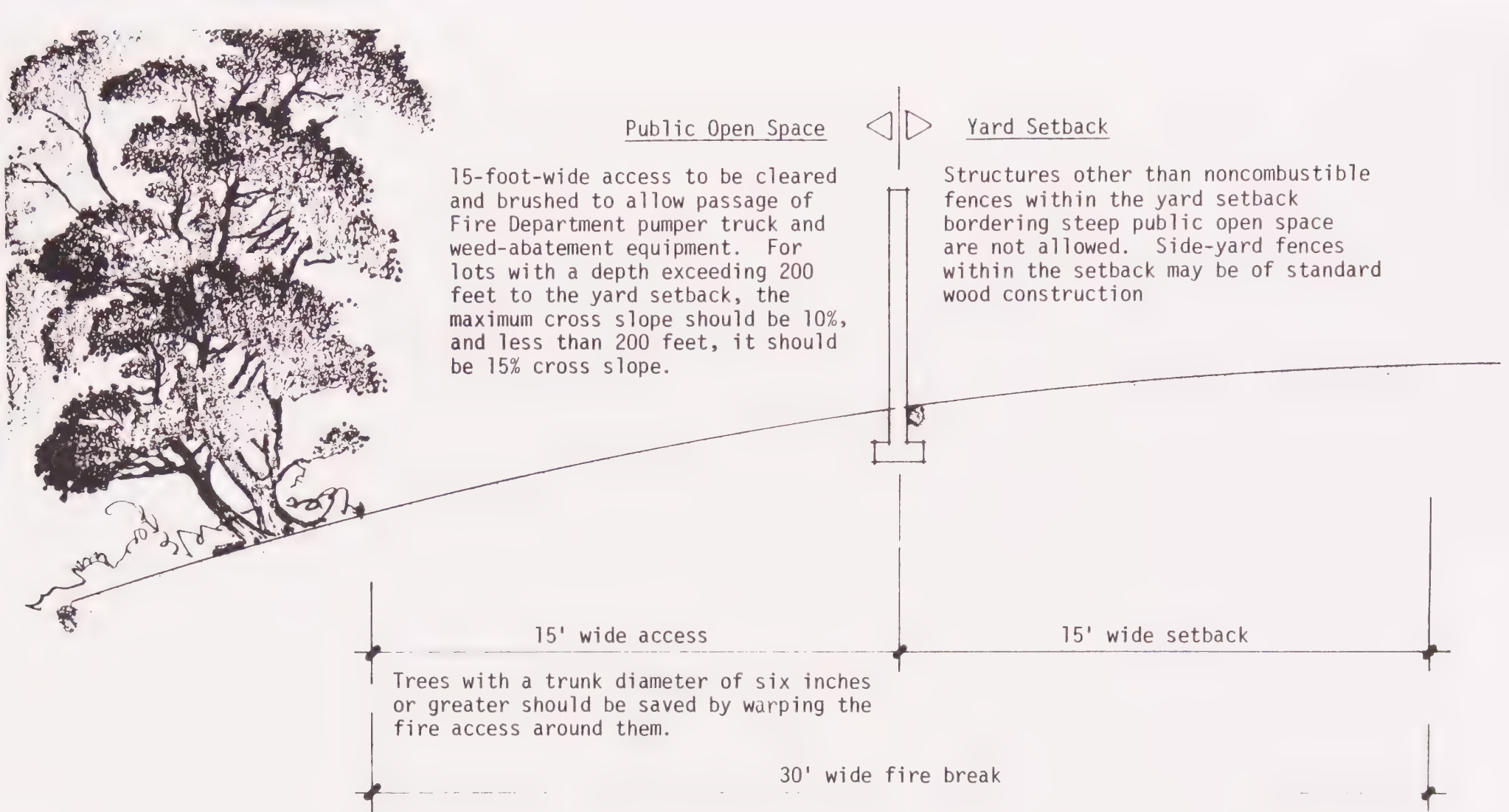




SCALE: 1" = 30'

Figure 2  
Section A-A  
Typical profile of lot  
adjacent to public  
open space





SCALE: 1/4" = 1'-0"

Figure 3  
Section A-A  
Typical fire-break  
detail for subdivi-  
sion bordering steep  
public open space.



6. In an effort to improve the overall fire-suppression capability of the City, weed-abatement districts should be encouraged pursuant to provisions of Government Code, Chapter 13. This procedure would empower the City to order the abatement of weeds on private property and bill the property owner by way of property-tax assessment. Actual weed abatement could be done by the property owner or by the private sector based on an annual contract.
7. In general, the City's fire-suppression efforts could be improved by revising subdivision-design standards to include the standards of the Safety Element to lessen the spread of wild-land fires for areas near steep canyons. Such standards could include fire-retardant roof materials.
8. Fire hydrants should meet ISO standards for the type of use proposed.
9. Fire-fighting equipment and location should be determined by the variety of structures in the area, the available water supply, outside aid, the amount of area to be protected and the kind of fires to be encountered. Furthermore, facilities for the maintenance and repair of equipment should be sufficient to minimize equipment down time.
10. Secondary emergency-evacuation routes for existing and new subdivisions should be developed.
11. Fire department manning should be based on the amount of area to be protected, the kind of fires to be encountered, the City's population, the interjurisdictional agreements the City enters into, and the City's fiscal capability.
12. Fire-fighting equipment and location should be determined by the variety of structures in the area, the available water supply, outside aid, the amount of area to be protected, and the kind of fires to be encountered. Furthermore, facilities for the maintenance and repair of equipment to be sufficient to minimize equipment down time.
13. The City should provide for communication equipment capable of 24-hour alarm notification, equipment dispatching, unit coordination, and coordination with other jurisdictions. Backup systems should be provided in case of failure.
14. Water supply should be available in such quantity that maximum daily consumption and fire-flow requirements can be met at the same time. The supply system should be such that in case of pump failure, water can be shunted to critical areas by other means.
15. A distribution system of sufficient capacity to deliver adequate fire flows to all built-up areas with consumption at the maximum daily rate. Wherever possible, a looping system with cross connections for mutual reinforcement should be used. Mains should be valved so that sections can be bypassed in case of failure. Main sizes under eight inches should be looped and not dead-ended.

16. The City should encourage a fire-hydrant system whose design and spacing is based on the available fire flow and the type of land uses being protected. Hydrants in commercial areas should be at shorter intervals than those in residential areas. The maximum fire-hydrant interval should not exceed five hundred feet.
17. Standards 2 and 5, as noted above, should be flexible in their application to allow for the developer to propose equal or better methods to meet the intent of the firebreak as stipulated in the State's Uniform Fire Code. The determination of adequacy of different standards other than those listed in this Element should be the discretion of the Planning Director and Fire Marshal.

D. STREET DESIGN

Streets should be designed so that there is room for an emergency vehicle to pass between two parked vehicles and be able to stay on the paved right of way. Streets that dead end should incorporate an emergency-vehicle turnaround.

E. NOISE PROTECTION

Noise levels should meet the goal, objectives and standards of the "Noise Element of the Redding General Plan (1980-2000)."

F. AIR QUALITY PROTECTION

The City should support and implement the standards pertaining to improving the City's air quality as presented in the "Conservation and Open Space Element of the Redding General Plan (1980-2000)."

G. WATER QUALITY PROTECTION

The City should support and implement the standards pertaining to improving the community's water quality as presented in the "Conservation and Open Space Element of the Redding General Plan (1980-2000)."

H. AIRPORTS

The safety standards of the "Redding Municipal Airport Area Plan" should be implemented.

I. PEDESTRIAN AND BICYCLING SAFETY OBJECTIVES

The primary goal is to develop safe walking and bicycling practices and the reduction of accident exposure for children walking or bicycle riding to school. This goal can be accomplished by meeting the following objectives:

1. Distribute maps to schools showing safe routes for grades kindergarten to third grade. The districts should then distribute the maps at the beginning of each school year to parents, children, and teachers in determining the safest route to use in school commute by those bicycling or walking.

2. Develop training and educational aids for school districts on proper bicycle and pedestrian habits.
3. Implement a ride-sharing program for school districts.
4. Provide the school districts bus routes and training materials in utilization of the City bus transit system as a travel mode between home and school.
5. Provide rules of the road applicable to pedestrians and bicyclists.
6. Encourage sidewalks within and around subdivisions.

## V. RECOMMENDED ACTIONS THE CITY SHOULD TAKE

The following are a list of specific actions for the City to accomplish within five years after adoption of the element.

- A. Maintain an updated map of City-owned land to be made available to all departments for the purpose of dealing with open-space complaints and fire emergencies.
- B. Amend the City's Grading Ordinance and Subdivision Ordinance to include the provision for a firebreak and access along the rear property line of subdivision adjacent to steep slopes.
- C. Adopt the recommended minimum lot depth standards for subdivisions adjacent to steep slopes to allow for the extension of fire hoses.
- D. Adopt hillside subdivision design standards to include the requirement for fire-retardant material, and building setback.
- E. Update the 1982 "Emergency Plan" for the City of Redding every two years and include an evacuation plan in case of failure of Shasta or Keswick Dams.
- F. Adopt a flood-plain zoning ordinance that includes the flood plain zoning standards of the "Conservation and Open Space Element" (1980-2000).
- G. Evaluate the storage and location of toxic and hazardous materials within the City and determine if the land-use policies of the City provide adequate protection of residential areas, hospitals, and schools.

## VI. CONTINGENCY PLANS

The California Emergency Services Act provides the basis for emergency preparedness programs of cities and counties. This act requires local jurisdictions to adopt ordinances, resolutions and plans which shall establish organizations responsible for emergency preparedness and emergency-relief operations. As such, the act requires that the City of Redding be able to respond to:

1. Earthquakes
2. Floods
3. Fires
4. Accidents
  - a. Transportation
  - b. Industrial
  - c. Chemical Spills
5. Civil Disorders
6. National Emergencies

In 1982, the City of Redding, in accordance with State requirements, adopted the City of Redding "Emergency Plan." By adopting this plan, Redding should be able to accomplish the general objectives of the act, including:

1. Save lives and protect property.
2. Repair and restore essential systems and services.
3. Provide a basis for direction and control of emergency operations.
4. Provide for the use, protection and distribution of remaining resources.
5. Provide for continuity of Government.
6. Coordinate operations with the emergency service organizations of other jurisdictions.

Effectively, it is the intent of the act to insure that local jurisdictions will be prepared in the event of emergencies and that they shall be as self-sufficient as possible. Each agency will be able to provide relief to other agencies and also be able to receive aid from outside forces. Redding would be providing activities such as leadership, fire protection, law enforcement, health and medical care, shelter, traffic control, engineering and utility repair in cooperation with other agencies and civil defense.

In conjunction with the establishment of an emergency plan is the delineation of emergency evacuation routes. The use of these routes is two fold: (1) to provide a means of passage out of the community, and (2) to provide a route to or through the community from other areas. For the Safety Element, the routes listed below and depicted on the attached map are designated as evacuation routes:

1. Interstate 5
2. Highway 299
3. Highway 44
4. Airport Road
5. Placer Road
6. Lake Boulevard
7. Highway 273
8. South Bonnyview

During initial emergency operations, efforts should be directed toward maintaining these routes in a passable condition for immediate or delayed evacuation. The actual use of any one route would be determined by the type of emergency, the nature and location of the event and the appropriate agency.

## SOURCES CONSULTED

1. "Existing Conditions and Issues Report of the Redding General Plan (August 1980)," Department of Planning and Community Development, Redding City Hall.
2. "Conservation and Open Space Element of the Redding General Plan (1980-2000)," Department of Planning and Community, Redding City Hall.
3. "Noise Element of the Redding General Plan (1980-2000)," Department of Planning and Community Development.
4. "Redding Municipal Airport Area Plan," Department of Planning and Community Development, Redding City Hall.
5. "Disaster Assistance Procedural Manual," State of California, Office of Emergency Service (1977).
6. "Protecting Residences From Wildfires," U.S. Department of Agriculture, Technical Report No. P.S.W.-50 (May 1981).



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